



MONTGOMERY WATSON

May 19, 1997

Los Angeles Regional Water Quality Control Board  
101 Centre Plaza Drive  
Monterey Park, CA 91754

Attention: Mr. Jim Ross

Subject: Addendum to Soil Stockpile Report, Parcel A, Report No. 1  
McDonnell Douglas C-6 Facility Demolition  
Los Angeles, California

Dear Mr. Ross:

This letter report is provided as an addendum to the Soil Stockpile Report, Parcel A, Report No. 1 (Montgomery Watson, 1997) recently submitted to you. The purpose of this addendum is to present soil quality data collected during supplemental sampling events of stockpiles B37-RE-1 and B37-RE-2 at the McDonnell Douglas C-6 Facility in Los Angeles, California. At your request, this supplemental sampling was performed to evaluate PCB content in both stockpiles, and the extent of bis (2-ethylhexyl)phthalate in the B37-RE-2 Stockpile through analysis of semi-volatile organic compounds (SVOCs).

### Background

Soil samples were previously collected from the B37-RE-1 Stockpile and the B37-RE-2 Stockpile as presented in the Soil Stockpile Report (Montgomery Watson, 1997); however, analysis for PCBs was not performed. For your convenience, previous sample locations are included in Figure 1 and Figure 2 enclosed.

Additionally, hot spot sample B37-GS-33 was collected from remedial excavation B37-RE-2 on February 14, 1997 as part of the Building 37 demolition activities. Bis (2-ethylhexyl)phthalate was detected in concentration of 210 mg/kg. Soil in the vicinity of this sample was excavated and placed in the northern end of the B37-RE-2 Stockpile as presented in Figure 2.

### Supplemental Stockpile Sampling

Supplemental stockpile soil samples were collected using a shovel to cut vertically into the side of the stockpile at each sample location to expose "fresh" soil; samples were then collected from the exposed vertical wall. Soil samples were collected for analysis in pre-cleaned, stainless steel sleeves by driving the sleeve into the soil with a rubber mallet. The ends of the sleeves were then covered with Teflon film and secured with plastic end caps.

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A unique sample identification was written in indelible ink on a sample label and attached to each sleeve. Sample sleeves were placed in a cooler with blue ice and transported under chain-of-custody to a State-certified laboratory for analysis.

#### PCB Analysis of B37-RE-1 and B37-RE-2 Stockpiled Soil

One supplemental stockpile sample was collected from the B37-RE-1 Stockpile and one supplemental stockpile sample was collected from the B37-RE-2 Stockpile for analysis of PCBs. The samples were designated and analyzed as follows:

<u>Stockpile</u>	<u>Sample ID</u>	<u>EPA Method</u>	<u>Analyte</u>
B37-RE-1	B37-RE1-SPCONFA	8080	PCBs
B37-RE-2	B37-RE2-SPCONFA	8080	PCBs

The locations where these samples were collected are presented in Figure 1 and Figure 2.

#### SVOC Analysis of the Northern End of B37-RE-2

Four supplemental stockpile samples were collected from the northern end of the B37-RE-2 stockpile for analysis of SVOCs. The samples were designated and analyzed as follows:

<u>Stockpile</u>	<u>Sample ID</u>	<u>EPA Method</u>	<u>Analyte</u>
B37-RE-2	B37-RE2-SP3A	8270	SVOCs
B37-RE-2	B37-RE2-SP3B	8270	SVOCs
B37-RE-2	B37-RE2-SP3C	8270	SVOCs
B37-RE-2	B37-RE2-SP3D	8270	SVOCs

The locations where these samples were collected are presented in Figure 2.

### **Results**

PCBs were not detected in the supplemental sample collected from the B37-RE-1 Stockpile or from the B37-RE-2 Stockpile.

Bis (2-ethylhexyl)phthalate was the only SVOC compound detected in supplemental samples collected from the B37-RE-2 Stockpile. The maximum concentration detected was 62 mg/kg.

Analytical data are summarized in Table 1 and Table 2 enclosed. Laboratory analytical data sheets are also enclosed.

## Conclusions

The supplemental sampling data presented in this addendum support the following:

- 1) The absence of PCBs in samples collected from the B37-RE-1 and B37-RE-2 stockpiles supports the conclusion that these soils are protective of drinking water and human health.
- 2) The supplemental sampling data confirm that the concentration of bis (2-ethylhexyl)phthalate in the B37-RE-2 Stockpile is protective of drinking water and human health based on the backfill screening methodology presented in the Soil Stockpile Report (Montgomery Watson, 1997). However, in response to issues raised in your letter to Michael Young dated May 9, 1997, and in an effort to expedite closure of the Site, McDonnell Douglas will remove the northern 36 cubic yards (approximate) of soil from the B37-RE-2 Stockpile affected with bis (2-ethylhexyl)phthalate for off-site disposal.

## References

Montgomery Watson, Soil Stockpile Report, Parcel A, Report No. 1, McDonnell Douglas C-6 Facility, Los Angeles, California, 1997.

Please call if you have any questions or require any additional information.

Sincerely,

MONTGOMERY WATSON



M. Fred Strauss, R.G.  
Principal Hydrogeologist

## Enclosures

- 1) Figure 1 and Figure 2
- 2) Table 1 and Table 2
- 3) Laboratory Data Sheets

cc: M. Stavale, McDonnell Douglas Realty Company  
M. Young, Integrated Environmental Services, Inc.

Enclosures

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## Enclosures

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MONTGOMERY WATSON

0 25 50

Scale  
(1 inch = 50 feet)

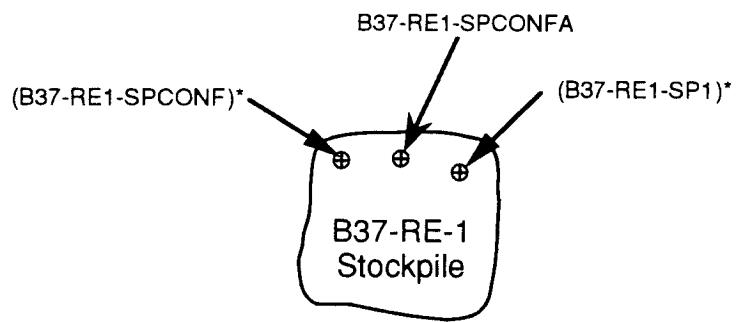
Note:

Building dimensions to scale.  
Stockpile dimensions shown proportionally.

BUILDING 37

BUILDING 36

BUILDING 1



N

(\* Note: Previous sample –analytical data presented in Soil Stockpile Report, Parcel A, No. 1)

DOUGLAS AIRCRAFT COMPANY  
C-6 FACILITY

**FIGURE 1**

**Remedial Excavation B37-RE-1 Stockpile and Supplemental Sample Location**

0 25 50

Scale  
(1 inch = 50 feet)

Note:

Building dimensions to scale.  
Stockpile dimensions shown  
proportionally.

BUILDING 33

BUILDING 29

BUILDING 1

B37-RE2-SP3B B37-RE2-SP3C

B37-RE2-SP3A B37-RE2-SP3D

(B37-RE2-SP1)\*

(B37-RE2-SPCONF)\* B37-RE2-SPCONF A

B37-RE-2  
Stockpile

N

(\* Note: Previous sample –analytical data presented in Soil Stockpile Report, Parcel A, No. 1)

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C-6 FACILITY

Remedial Excavation B37-RE-2 Stockpile and Supplemental Sample Locations

FIGURE 2

**TABLE 1**  
**Analytical Data Summary**  
**Remedial Excavation B37-RE-1 Supplemental Stockpile Sample\***

Analyte	EPA Method	Sample Number and Collection Date	
		B37-RE1-SPCONFA 5/12/97	
TRPH (mg/kg)	418.1	--	
<b>Title 22 Metals (mg/kg)</b>			<b>Regulatory Levels</b>
Antimony	6010	--	TTLC (mg/kg) 500
Arsenic	6010	--	10X STLC (mg/L) 150
Barium	6010	--	500
Beryllium	6010	--	10,000
Cadmium	6010	--	75
Chromium (VI)	7196	--	100
Chromium (total)	6010	--	500
Cobalt	6010	--	2,500
Copper	6010	--	8,000
Lead (total)	6010	--	2,500
Mercury	7471	--	1,000
Molybdenum	6010	--	20
Nickel	6010	--	3,500
Selenium	6010	--	2,000
Silver	6010	--	100
Thallium	6010	--	500
Vanadium	6010	--	700
Zinc	6010	--	2,400
			5,000
			2,500
<b>VOCs (mg/kg)</b>	8260	--	
<b>SVOCs (mg/kg)</b>	8270	--	
<b>Carbon Chain Range (mg/kg)</b>	sim. dist.	--	
<b>PCBs (mg/kg)</b>	8080	ND	

mg/kg = micrograms per kilogram

mg/L = milligrams per liter

-- = not analyzed

sim.dist. = simulated distillation

PCBs = Polychlorinated Biphenyls

VOCs = Volatile Organic Compounds

SVOCs = Semi-volatile Organic Compounds

TRPH = Total Recoverable Petroleum Hydrocarbons

10X STLC = Ten Times the California Soluble Threshold Limit Concentration

TTLC = California Total Threshold Limit Concentration

ND = not detected

\* Refer to Figure 1 for sample location

**TABLE 2**  
**Analytical Data Summary**  
**Remedial Excavation B37-RE-2 Supplemental Stockpile Samples\***

Analyte	EPA Method	Sample Number and Collection Date					Regulatory Levels (mg/kg)      10X STLC (mg/L)	
		B37-RE2-SP3A 5/1/97	B37-RE2-SP3B 5/1/97	B37-RE2-SP3C 5/1/97	B37-RE2-SP3D 5/1/97	B37-RE2-SPCONFA 5/12/97		
TRPH (mg/kg)	418.1	--	--	--	--	--	500	150
<b>Title 22 Metals (mg/kg)</b>								
Antimony	6010	--	--	--	--	--	500	150
Arsenic	6010	--	--	--	--	--	500	50
Barium	6010	--	--	--	--	--	10,000	1,000
Beryllium	6010	--	--	--	--	--	75	7.5
Cadmium	6010	--	--	--	--	--	100	10
Chromium (VI)	7196	--	--	--	--	--	500	50
Chromium (total)	6010	--	--	--	--	--	2,500	500
Cobalt	6010	--	--	--	--	--	8,000	800
Copper	6010	--	--	--	--	--	2,500	250
Lead (total)	6010	--	--	--	--	--	1,000	50
Mercury	7471	--	--	--	--	--	20	2
Molybdenum	6010	--	--	--	--	--	3,500	3,500
Nickel	6010	--	--	--	--	--	2,000	200
Selenium	6010	--	--	--	--	--	100	10
Silver	6010	--	--	--	--	--	500	50
Thallium	6010	--	--	--	--	--	700	70
Vanadium	6010	--	--	--	--	--	2,400	240
Zinc	6010	--	--	--	--	--	5,000	2,500
VOCS (mg/kg)	8260	--	--	--	--	--		
<b>SVOCs (1) (mg/kg)</b>								
bis (2-Ethylhexyl)Phthalate	8270	17,000	6,800	62,000	<0.100	--		
Carbon Chain Range (mg/kg)	sim dist	--	--	--	--	--		
PCBs (mg/kg)	8080	--	--	--	--	--	ND	

mg/kg = micrograms per kilogram

VOCs = Volatile Organic Compounds

(1) SVOCs not listed were not detected

mg/L = milligrams per liter

SVOCs = Semi-volatile Organic Compounds

TTLC = California Total Threshold Limit Concentration

-- = not analyzed

TRPH = Total Recoverable Petroleum Hydrocarbons

10X STLC = Ten Times the California Soluble Threshold Limit Concentration

sim.dist. = simulated distillation

PCBs = Polychlorinated Biphenyls

ND = not detected

\* Refer to Figure 2 for sample locations



# ORANGE COAST ANALYTICAL, INC.

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**Montgomery Watson**  
ATTN: Mr. Fred Strauss  
250 N. Madison Ave.  
Pasadena, CA 91101

**Client Project ID:** McDonnell Douglas  
**Client Project #:** 1206035-01090010

**Sample Description:** Soil, B37-RE1-SPCONFA

**Laboratory Sample Number:** 97050225  
**Laboratory Reference #:** MWI 9042

**Sampled:** 05-12-97  
**Received:** 05-12-97  
**Analyzed:** 05-13-97  
**Reported:** 05-13-97

## PCB'S (EPA 8080)

<b>ANALYTE</b>	<b>CAS NUMBER</b>	<b>DETECTION LIMIT (ug/kg)</b>	<b>SAMPLE RESULTS (ug/kg)</b>
PCB-1016	12674-11-2	20	N.D.
PCB-1221	11104-28-2	20	N.D.
PCB-1232	11141-16-5	20	N.D.
PCB-1242	53469-21-9	20	N.D.
PCB-1248	12672-29-6	20	N.D.
PCB-1254	11097-69-1	20	N.D.
PCB-1260	11096-82-5	20	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**ORANGE COAST ANALYTICAL**

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**Mark Noorani**  
Laboratory Director



ORANGE COAST ANALYTICAL, INC.

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**Montgomery Watson**  
ATTN: Mr. Fred Strauss  
250 N. Madison Ave.  
Pasadena, CA 91101

**Client Project ID:** McDonnell Douglas  
**Client Project #:** 1206035-01090010

**Sample Description:** Soil, B37-RE2-SPCONFA

**Laboratory Sample Number:** 97050226  
**Laboratory Reference #:** MWI 9042

**Sampled:** 05-12-97  
**Received:** 05-12-97  
**Analyzed:** 05-13-97  
**Reported:** 05-13-97

**PCB'S (EPA 8080)**

<b>ANALYTE</b>	<b>CAS NUMBER</b>	<b>DETECTION LIMIT (ug/kg)</b>	<b>SAMPLE RESULTS (ug/kg)</b>
PCB-1016	12674-11-2	20	N.D.
PCB-1221	11104-28-2	20	N.D.
PCB-1232	11141-16-5	20	N.D.
PCB-1242	53469-21-9	20	N.D.
PCB-1248	12672-29-6	20	N.D.
PCB-1254	11097-69-1	20	N.D.
PCB-1260	11096-82-5	20	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**ORANGE COAST ANALYTICAL**

**Mark Noorani**  
Laboratory Director

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**Montgomery Watson**  
**ATTN: Mr. Fred Strauss**  
**250 N. Madison Ave.**  
**Pasadena, CA 91101**

**Client Project ID: McDonnell Douglas**  
**Client Project #: 1206035-01090010**

**Sample Description:** Soil, B37-RE2-SP3A      **Sampled :** 05-01-97  
**Laboratory Sample #:** 97050033      **Received:** 05-01-97  
**Laboratory Reference #:** MWI 9012      **Analyzed:** 05-02-97  
    **Reported:** 05-02-97

**SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)**

<b>ANALYTE</b>	<b>CAS NUMBER</b>	<b>DETECTION LIMIT ug/kg</b>	<b>SAMPLE RESULTS ug/kg</b>
Acenaphthene	83-32-9	200	N.D.
Acenaphthylene	208-96-8	200	N.D.
Aniline	62-53-3	200	N.D.
Anthracene	120-12-7	200	N.D.
Benzidine	92-87-5	1000	N.D.
Benzoic Acid	65-85-0	500	N.D.
Benzo(a)anthracene	56-55-3	200	N.D.
Benzo(b)fluoranthene	205-99-2	500	N.D.
Benzo(k)fluoranthene	207-08-9	500	N.D.
Benzo(g,h,i)perylene	191-24-2	500	N.D.
Benzo(a)pyrene	50-32-8	500	N.D.
Benzyl alcohol	100-51-6	200	N.D.
Bis(2-chloroethoxy)methane	111-91-1	200	N.D.
Bis(2-chloroethyl)ether	111-44-4	200	N.D.
Bis(2-chloroisopropyl)ether	39638-32-9	200	N.D.
Bis(2-ethylhexyl)phthalate	117-81-7	200	17,000 <---
4-Bromophenyl phenyl ether	101-55-3	200	N.D.
Butyl benzyl phthalate	85-68-7	200	N.D.
4-Chloroaniline	106-47-8	200	N.D.
2-Chloronaphthalene	91-58-7	200	N.D.
4-Chloro-3-methylphenol	59-50-7	200	N.D.
2-Chlorophenol	95-57-8	200	N.D.
4-Chlorophenyl phenyl ether	7005-72-3	200	N.D.
Chrysene	218-0109	200	N.D.
Dibenz(a,h)anthracene	53-70-3	200	N.D.
Dibenzofuran	132-64-9	200	N.D.
Di-n-butyl phthalate	84-74-2	500	N.D.
1,3-Dichlorobenzene	541-73-1	200	N.D.
1,4-Dichlorobenzene	106-46-7	200	N.D.
1,2-Dichlorobenzene	95-50-1	200	N.D.
3,3'-Dichlorobenzidine	91-94-1	200	N.D.
2,4-Dichlorophenol	120-83-2	200	N.D.
Diethyl phthalate	84-66-2	200	N.D.
2,4-Dimethylphenol	105-67-9	200	N.D.
Dimethyl phthalate	131-11-3	200	N.D.
4,6-Dinitro-2-methylphenol	534-52-1	200	N.D.
2,4-Dinitrophenol	51-28-5	200	N.D.



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## SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270) (continued)

Sample Description: Soil, B37-RE2-SP3A

Laboratory Sample #: 97050033

ANALYTE	CAS NUMBER	DETECTION LIMIT ug/kg	SAMPLE RESULTS ug/kg
2,4-Dinitrotoluene	121-14-2	500	N.D.
2,6-Dinitrotoluene	606-20-2	500	N.D.
Di-n-octyl phthalate	117-84-0	500	N.D.
Fluoranthene	206-44-0	200	N.D.
Fluorene	86-73-7	200	N.D.
Hexachlorobenzene	118-74-1	200	N.D.
Hexachlorobutadiene	87-68-3	200	N.D.
Hexachlorocyclopentadiene	77-47-4	200	N.D.
Hexachloroethane	67-72-1	200	N.D.
Indeno(1,2,3-cd)pyrene	193-39-5	500	N.D.
Isophorone	78-59-1	200	N.D.
2-Methylnaphthalene	91-57-6	200	N.D.
2-Methylphenol	95-48-7	200	N.D.
4-Methylphenol	106-44-5	200	N.D.
Naphthalene	91-20-3	200	N.D.
2-Nitroaniline	88-74-4	500	N.D.
3-Nitroaniline	99-09-2	500	N.D.
4-Nitroaniline	100-01-6	500	N.D.
Nitrobenzene	98-95-3	200	N.D.
2-Nitrophenol	88-75-5	200	N.D.
4-Nitrophenol	100-02-7	200	N.D.
N-Nitrosodiphenylamine	86-30-6	200	N.D.
N-Nitroso-di-n-propylamine	621-64-7	200	N.D.
N-Nitrosodimethylamine	62-75-9	200	N.D.
Pentachlorophenol	87-86-5	500	N.D.
Phenanthrene	85-01-8	200	N.D.
Phenol	108-95-2	200	N.D.
Pyrene	129-00-0	200	N.D.
1,2,4-Trichlorobenzene	120-82-1	200	N.D.
2,4,5-Trichlorophenol	95-95-4	200	N.D.
2,4,6-Trichlorophenol	88-06-2	200	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

ORANGE COAST ANALYTICAL

Mark Hoorani  
Laboratory Director



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Montgomery Watson  
 ATTN: Mr. Fred Strauss  
 250 N. Madison Ave.  
 Pasadena, CA 91101

Client Project ID: McDonnell Douglas  
 Client Project #: 1206035-01090010

Sample Description: Soil, B37-RE2-SP3B  
 Laboratory Sample #: 97050034  
 Laboratory Reference #: MWI 9012

Sampled : 05-01-97  
 Received: 05-01-97  
 Analyzed: 05-02-97  
 Reported: 05-02-97

## SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

ANALYTE	CAS NUMBER	DETECTION LIMIT ug/kg	SAMPLE RESULTS ug/kg
Acenaphthene	83-32-9	100	N.D.
Acenaphthylene	208-96-8	100	N.D.
Aniline	62-53-3	100	N.D.
Anthracene	120-12-7	100	N.D.
Benzidine	92-87-5	500	N.D.
Benzoic Acid	65-85-0	250	N.D.
Benzo(a)anthracene	56-55-3	100	N.D.
Benzo(b)fluoranthene	205-99-2	250	N.D.
Benzo(k)fluoranthene	207-08-9	250	N.D.
Benzo(g,h,i)perylene	191-24-2	250	N.D.
Benzo(a)pyrene	50-32-8	250	N.D.
Benzyl alcohol	100-51-6	100	N.D.
Bis(2-chloroethoxy)methane	111-91-1	100	N.D.
Bis(2-chloroethyl)ether	111-44-4	100	N.D.
Bis(2-chloroisopropyl)ether	39638-32-9	100	N.D.
Bis(2-ethylhexyl)phthalate	117-81-7	100	6,800 <---
4-Bromophenyl phenyl ether	101-55-3	100	N.D.
Butyl benzyl phthalate	85-68-7	100	N.D.
4-Chloroaniline	106-47-8	100	N.D.
2-Chloronaphthalene	91-58-7	100	N.D.
4-Chloro-3-methylphenol	59-50-7	100	N.D.
2-Chlorophenol	95-57-8	100	N.D.
4-Chlorophenyl phenyl ether	7005-72-3	100	N.D.
Chrysene	218-0109	100	N.D.
Dibenz(a,h)anthracene	53-70-3	100	N.D.
Dibenzofuran	132-64-9	100	N.D.
Di-n-butyl phthalate	84-74-2	250	N.D.
1,3-Dichlorobenzene	541-73-1	100	N.D.
1,4-Dichlorobenzene	106-46-7	100	N.D.
1,2-Dichlorobenzene	95-50-1	100	N.D.
3,3'-Dichlorobenzidine	91-94-1	100	N.D.
2,4-Dichlorophenol	120-83-2	100	N.D.
Diethyl phthalate	84-66-2	100	N.D.
2,4-Dimethylphenol	105-67-9	100	N.D.
Dimethyl phthalate	131-11-3	100	N.D.
4,6-Dinitro-2-methylphenol	534-52-1	100	N.D.
2,4-Dinitrophenol	51-28-5	100	N.D.

**ORANGE COAST ANALYTICAL, INC.**

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SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

(continued)

Sample Description: Soil, B37-RE2-SP3B

Laboratory Sample #: 97050034

ANALYTE	CAS NUMBER	DETECTION LIMIT ug/kg	SAMPLE RESULTS ug/kg
2,4-Dinitrotoluene	121-14-2	250	N.D.
2,6-Dinitrotoluene	606-20-2	250	N.D.
Di-n-octyl phthalate	117-84-0	250	N.D.
Fluoranthene	206-44-0	100	N.D.
Fluorene	86-73-7	100	N.D.
Hexachlorobenzene	118-74-1	100	N.D.
Hexachlorobutadiene	87-68-3	100	N.D.
Hexachlorocyclopentadiene	77-47-4	100	N.D.
Hexachloroethane	67-72-1	100	N.D.
Indeno(1,2,3-cd)pyrene	193-39-5	250	N.D.
Isophorone	78-59-1	100	N.D.
2-Methylnaphthalene	91-57-6	100	N.D.
2-Methylphenol	95-48-7	100	N.D.
4-Methylphenol	106-44-5	100	N.D.
Naphthalene	91-20-3	100	N.D.
2-Nitroaniline	88-74-4	250	N.D.
3-Nitroaniline	99-09-2	250	N.D.
4-Nitroaniline	100-01-6	250	N.D.
Nitrobenzene	98-95-3	100	N.D.
2-Nitrophenol	88-75-5	100	N.D.
4-Nitrophenol	100-02-7	100	N.D.
N-Nitrosodiphenylamine	86-30-6	100	N.D.
N-Nitroso-di-n-propylamine	621-64-7	100	N.D.
N-Nitrosodimethylamine	62-75-9	100	N.D.
Pentachlorophenol	87-86-5	250	N.D.
Phenanthrene	85-01-8	100	N.D.
Phenol	108-95-2	100	N.D.
Pyrene	129-00-0	100	N.D.
1,2,4-Trichlorobenzene	120-82-1	100	N.D.
2,4,5-Trichlorophenol	95-95-4	100	N.D.
2,4,6-Trichlorophenol	88-06-2	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

**ORANGE COAST ANALYTICAL**

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**Mark Noorani**  
Laboratory Director



# ORANGE COAST ANALYTICAL, INC.

3002 Dow, Suite 532, Tustin, CA 92780 (714) 832-0064 Fax (714) 832-0067  
4620 E. Elwood, Suite 4, Phoenix, AZ 85040 (602) 738-0960 Fax (602) 738-0970

Montgomery Watson  
ATTN: Mr. Fred Strauss  
250 N. Madison Ave.  
Pasadena, CA 91101

Client Project ID: McDonnell Douglas  
Client Project #: 1206035-01090010

Sample Description: Soil, B37-RE2-SP3C  
Laboratory Sample #: 97050035  
Laboratory Reference #: MWI 9012

Sampled : 05-01-97  
Received: 05-01-97  
Analyzed: 05-02-97  
Reported: 05-02-97

## SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

ANALYTE	CAS NUMBER	DETECTION LIMIT ug/kg	SAMPLE RESULTS ug/kg
Acenaphthene	83-32-9	400	N.D.
Acenaphthylene	208-96-8	400	N.D.
Aniline	62-53-3	400	N.D.
Anthracene	120-12-7	400	N.D.
Benzidine	92-87-5	2000	N.D.
Benzoic Acid	65-85-0	1000	N.D.
Benzo(a)anthracene	56-55-3	400	N.D.
Benzo(b)fluoranthene	205-99-2	1000	N.D.
Benzo(k)fluoranthene	207-08-9	1000	N.D.
Benzo(g,h,i)perylene	191-24-2	1000	N.D.
Benzo(a)pyrene	50-32-8	1000	N.D.
Benzyl alcohol	100-51-6	400	N.D.
Bis(2-chloroethoxy)methane	111-91-1	400	N.D.
Bis(2-chloroethyl)ether	111-44-4	400	N.D.
Bis(2-chloroisopropyl)ether	39638-32-9	400	N.D.
Bis(2-ethylhexyl)phthalate	117-81-7	400	62,000 <---
4-Bromophenyl phenyl ether	101-55-3	400	N.D.
Butyl benzyl phthalate	85-68-7	400	N.D.
4-Chloroaniline	106-47-8	400	N.D.
2-Chloronaphthalene	91-58-7	400	N.D.
4-Chloro-3-methylphenol	59-50-7	400	N.D.
2-Chlorophenol	95-57-8	400	N.D.
4-Chlorophenyl phenyl ether	7005-72-3	400	N.D.
Chrysene	218-0109	400	N.D.
Dibenz(a,h)anthracene	53-70-3	400	N.D.
Dibenzofuran	132-64-9	400	N.D.
Di-n-butyl phthalate	84-74-2	400	N.D.
1,3-Dichlorobenzene	541-73-1	400	N.D.
1,4-Dichlorobenzene	106-46-7	400	N.D.
1,2-Dichlorobenzene	95-50-1	400	N.D.
3,3'-Dichlorobenzidine	91-94-1	400	N.D.
2,4-Dichlorophenol	120-83-2	400	N.D.
Diethyl phthalate	84-66-2	400	N.D.
2,4-Dimethylphenol	105-67-9	400	N.D.
Dimethyl phthalate	131-11-3	400	N.D.
4,6-Dinitro-2-methylphenol	534-52-1	400	N.D.
2,4-Dinitrophenol	51-28-5	400	N.D.



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## SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

(continued)

Sample Description: Soil, B37-RE2-SP3C

Laboratory Sample #: 97050035

ANALYTE	CAS NUMBER	DETECTION LIMIT ug/kg	SAMPLE RESULTS ug/kg
2,4-Dinitrotoluene	121-14-2	1000	N.D.
2,6-Dinitrotoluene	606-20-2	1000	N.D.
Di-n-octyl phthalate	117-84-0	1000	N.D.
Fluoranthene	206-44-0	400	N.D.
Fluorene	86-73-7	400	N.D.
Hexachlorobenzene	118-74-1	400	N.D.
Hexachlorobutadiene	87-68-3	400	N.D.
Hexachlorocyclopentadiene	77-47-4	400	N.D.
Hexachloroethane	67-72-1	400	N.D.
Indeno(1,2,3-cd)pyrene	193-39-5	1000	N.D.
Isophorone	78-59-1	400	N.D.
2-Methylnaphthalene	91-57-6	400	N.D.
2-Methylphenol	95-48-7	400	N.D.
4-Methylphenol	106-44-5	400	N.D.
Naphthalene	91-20-3	400	N.D.
2-Nitroaniline	88-74-4	1000	N.D.
3-Nitroaniline	99-09-2	1000	N.D.
4-Nitroaniline	100-01-6	1000	N.D.
Nitrobenzene	98-95-3	400	N.D.
2-Nitrophenol	88-75-5	400	N.D.
4-Nitrophenol	100-02-7	400	N.D.
N-Nitrosodiphenylamine	86-30-6	400	N.D.
N-Nitroso-di-n-propylamine	621-64-7	400	N.D.
N-Nitrosodimethylamine	62-75-9	400	N.D.
Pentachlorophenol	87-86-5	1000	N.D.
Phanthrene	85-01-8	400	N.D.
Phenol	108-95-2	400	N.D.
Pyrene	129-00-0	400	N.D.
1,2,4-Trichlorobenzene	120-82-1	400	N.D.
2,4,5-Trichlorophenol	95-95-4	400	N.D.
2,4,6-Trichlorophenol	88-06-2	400	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

ORANGE COAST ANALYTICAL

Mark Noorani  
Laboratory Director

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3002 Dow, Suite 532, Tustin, CA 92780 (714) 832-0064 Fax (714) 832-0067  
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**Montgomery Watson**  
**ATTN: Mr. Fred Strauss**  
**250 N. Madison Ave.**  
**Pasadena, CA 91101**

**Client Project ID: McDonnell Douglas**  
**Client Project #: 1206035-01090010**

**Sample Description:** Soil, B37-RE2-SP3D      **Sampled :** 05-01-97  
**Laboratory Sample #:** 97050036      **Received:** 05-01-97  
**Laboratory Reference #:** MWI 9012      **Analyzed:** 05-02-97  
    **Reported:** 05-02-97

**SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)**

<b>ANALYTE</b>	<b>CAS NUMBER</b>	<b>DETECTION LIMIT ug/kg</b>	<b>SAMPLE RESULTS ug/kg</b>
Acenaphthene	83-32-9	100	N.D.
Acenaphthylene	208-96-8	100	N.D.
Aniline	62-53-3	100	N.D.
Anthracene	120-12-7	100	N.D.
Benzidine	92-87-5	500	N.D.
Benzoic Acid	65-85-0	250	N.D.
Benzo(a)anthracene	56-55-3	100	N.D.
Benzo(b)fluoranthene	205-99-2	250	N.D.
Benzo(k)fluoranthene	207-08-9	250	N.D.
Benzo(g,h,i)perylene	191-24-2	250	N.D.
Benzo(a)pyrene	50-32-8	250	N.D.
Benzyl alcohol	100-51-6	100	N.D.
Bis(2-chloroethoxy)methane	111-91-1	100	N.D.
Bis(2-chloroethyl)ether	111-44-4	100	N.D.
Bis(2-chloroisopropyl)ether	39638-32-9	100	N.D.
Bis(2-ethylhexyl)phthalate	117-81-7	100	N.D.
4-Bromophenyl phenyl ether	101-55-3	100	N.D.
Butyl benzyl phthalate	85-68-7	100	N.D.
4-Chloroaniline	106-47-8	100	N.D.
2-Chloronaphthalene	91-58-7	100	N.D.
4-Chloro-3-methylphenol	59-50-7	100	N.D.
2-Chlorophenol	95-57-8	100	N.D.
4-Chlorophenyl phenyl ether	7005-72-3	100	N.D.
Chrysene	218-0109	100	N.D.
Dibenz(a,h)anthracene	53-70-3	100	N.D.
Dibenzofuran	132-64-9	100	N.D.
Di-n-butyl phthalate	84-74-2	250	N.D.
1,3-Dichlorobenzene	541-73-1	100	N.D.
1,4-Dichlorobenzene	106-46-7	100	N.D.
1,2-Dichlorobenzene	95-50-1	100	N.D.
3,3'-Dichlorobenzidine	91-94-1	100	N.D.
2,4-Dichlorophenol	120-83-2	100	N.D.
Diethyl phthalate	84-66-2	100	N.D.
2,4-Dimethylphenol	105-67-9	100	N.D.
Dimethyl phthalate	131-11-3	100	N.D.
4,6-Dinitro-2-methylphenol	534-52-1	100	N.D.
2,4-Dinitrophenol	51-28-5	100	N.D.



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## SEMI-VOLATILE ORGANICS by GC/MS (EPA 8270)

(continued)

Sample Description: Soil, B37-RE2-SP3D  
Laboratory Sample #: 97050036

ANALYTE	CAS NUMBER	DETECTION LIMIT ug/kg	SAMPLE RESULTS ug/kg
2,4-Dinitrotoluene	121-14-2	250	N.D.
2,6-Dinitrotoluene	606-20-2	250	N.D.
Di-n-octyl phthalate	117-84-0	250	N.D.
Fluoranthene	206-44-0	100	N.D.
Fluorene	86-73-7	100	N.D.
Hexachlorobenzene	118-74-1	100	N.D.
Hexachlorobutadiene	87-68-3	100	N.D.
Hexachlorocyclopentadiene	77-47-4	100	N.D.
Hexachloroethane	67-72-1	100	N.D.
Indeno(1,2,3-cd)pyrene	193-39-5	250	N.D.
Isophorone	78-59-1	100	N.D.
2-Methylnaphthalene	91-57-6	100	N.D.
2-Methylphenol	95-48-7	100	N.D.
4-Methylphenol	106-44-5	100	N.D.
Naphthalene	91-20-3	100	N.D.
2-Nitroaniline	88-74-4	250	N.D.
3-Nitroaniline	99-09-2	250	N.D.
4-Nitroaniline	100-01-6	250	N.D.
Nitrobenzene	98-95-3	100	N.D.
2-Nitrophenol	88-75-5	100	N.D.
4-Nitrophenol	100-02-7	100	N.D.
N-Nitrosodiphenylamine	86-30-6	100	N.D.
N-Nitroso-di-n-propylamine	621-64-7	100	N.D.
N-Nitrosodimethylamine	62-75-9	100	N.D.
Pentachlorophenol	87-86-5	250	N.D.
Phenanthrene	85-01-8	100	N.D.
Phenol	108-95-2	100	N.D.
Pyrene	129-00-0	100	N.D.
1,2,4-Trichlorobenzene	120-82-1	100	N.D.
2,4,5-Trichlorophenol	95-95-4	100	N.D.
2,4,6-Trichlorophenol	88-06-2	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

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